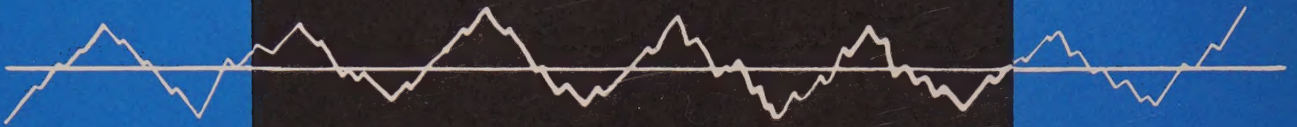


cycles



May 1959

FOUNDATION FOR THE STUDY OF CYCLES

New York, New York

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Director's Letter

Dear Member:

A Speculative Method

For the past ten days I have been working my way westward across the country, calling upon members, holding meetings, and (don't tell anyone) enjoying the scenery. For my money "God's country" starts about 100 miles west of the Mississippi and runs from there to the coast. I suppose God visits the East from time to time, but I don't think He stays any longer than He has to!

I met many interesting people about whom I shall tell you from time to time. One of the most interesting was the president of a large bank. This man has been most successful in making money in the stock market. He told me how he did it.

First of all he picks nothing but good stocks.

Second, by dividing the price of each stock by the value of the Standard & Poor's Index, he is able to see which stocks are doing better than average. Better-than-average behavior indicates to him that someone or something is behind the situation, pushing the stock up. This might be one or more funds or investment trusts, or some insiders, or even the general public.

Third, as a result of the cycle correspondence course, he has worked out a system that tells him when to buy and when to sell. The system has proved *very* profitable. I wish it would be fair to him to tell you how it works, but of course it would not.

Don't get the idea that the mere study of the cycle course will teach *you* when to buy and when to sell. You may not be as smart as this hombre. I know I am not. However, the course did definitely give *him* the clue he was looking for.

You see, 40% of stock movement (according to him) is the result of fundamentals such as the matters covered in points one and two above; 60% is due to cycles and randomness. Before the course he felt himself more or less a master of the 40% (he had parlayed \$1,000 into \$60,000 while he was still in prep school!), but the 60% of the movement due to cycles and such had eluded him. The course enabled him to master the 60% as well.

It will interest you to know that, at the present time, the speculative funds he handles are 25% cash; the conservative funds 50% cash. He said that he himself would prefer 100% cash.

A Research Fund

This man and I discussed the Foundation, and the need for basic research in the field of cycles. (Basic research is research which yields results of no *immediate* practical usefulness.)

He suggested that our members club together to pledge specific amounts a year *over a ten year period* so that something of the sort could be

undertaken. He himself pledged \$100 or \$200 a year for ten years to start the ball rolling.

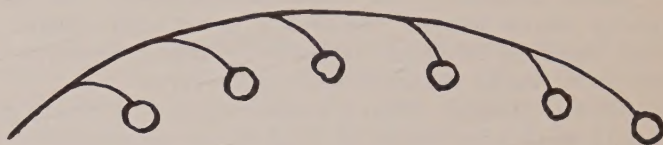
We both thought that a minimum of \$12,000 a year for ten years would be essential for even the sketchiest research program.

If you would like to participate in something of this sort, let me know.

The object of such research would be to find out about cycles *as such*, and, hopefully, get some light on the *cause* of cycles.

A Bunch of Grapes

A friend of mine, Chapin Hoskins, compares a turn in business to a "bunch of grapes", thus:



First one industry turns down, then another, then another, and so on. As each industry turns over, business as a whole advances less rapidly. Finally, business as a whole turns over. You may remember, for example, how so many things turned over in 1925, 1926, 1927, and 1928, thus giving warning (unheeded, of course, by most of us) of the debacle of 1929.

Something of this sort was going through my mind the other day as I was looking at the Index of Industrial Production that we print for you each month on the inside of the back cover. Just for fun, draw a line on this curve from December 1947 to May 1953: (Note that this line also touches the curve at September 1950.) Now project this line right up to date. It goes way off the chart.

The peak of November 1956 is not nearly up to the line. Currently we are even farther below it. The *rate* of growth has slackened.

Is this another example of the 'bunch of grapes'? Only time will tell, but it gives one food for thought, doesn't it?

I plan a story for you on this subject in the near future.

Mars

When I was visiting at the Lowell Observatory at Flagstaff, Arizona, I was fortunate in obtaining the promise of data regarding the advances and recessions of the ice cap on Mars.

Doctor Wing asked me to get these data so that he could see if the advances and recessions were cyclic and, if so, if the cycles on Mars correspond to any of the cycles found here on earth.

If they do, we have, of course, another bit of

evidence in support of the idea that the forces that cause cycles are *external* to the earth.

Clever of Doctor Wing, wasn't it? For my part I would never have thought of it.

Causes

The article in this issue about the different sorts of cycles is a prelude to a series of articles due to start next month. These articles will (1) deal with the hypothesis upon which we work and (2) discuss various possible causes of cycles. Until we know causes and understand the laws that govern the operation of cycles we are merely on the edge of our subject--not at the center of it.

Basic vs Applied Research

The activities of the Foundation are a compromise between the desires of most of our members, who wish us to engage in *applied* research, and our own desires, which are to engage in *basic* research.

Basic research, as I mentioned above, is research which has no *immediate* practical usefulness. Applied research is built on basic research--but note, basic research must come first.

In our field, basic research would concern itself with the study of cycles in extra-terrestrial events such as the sun, the planets, the stars, in order to see if their cycles correspond to the cycles in earthly events. We would study cycles in the thickness and thinness of tree rings and in the annual layers of sedimentary rock deposits to see if these cycles correspond to the cycles in economic affairs. It would develop new techniques, and test old ones.

In a word, it would turn its back on any thought

of the future of stock and commodity prices, the production of industry, and the future of business, and study *basic* things that would teach us the *causes* of cycles and the *laws* that govern their operation.

Unfortunately, most people would prefer to eat apples grown on trees planted by someone else than to go out and plant apple trees to grow fruit for the next generation. There aren't many Johnny Appleseeds in the world. But most of our industrial advancement is built on the research of scientific Johnny Appleseeds who have consecrated themselves to tomorrow.

I am reminded of two coal mines in the vicinity of where I live. One was prosperous, one was not. The successful operator was asked by a friend of mine to explain the difference.

"It's a matter of basic philosophy," said the man. "The philosophy of the mine across the way is 'To hell with tomorrow; big day today.' They are always taking the easy coal and never looking ahead. We, in contrast, are always looking toward the future. Our philosophy is, 'To hell with today; big day tomorrow.' And yesterday's tomorrow is always here!"

I'm afraid your Foundation is run largely like the bad coal mine. We deal with the easy and the superficial instead of with matters of basic importance. This is because we feel that you wish to cash in on what little we know instead of supporting us while we learn something of the basic and the profound.

Cordially yours,

Edward R. Dewey
Director

Research by Staff

WHAT'S AHEAD FOR COTTON CONSUMPTION?

BY G. SHIRK

The consumption of cotton declined slightly from 1957 to 1958. If there is validity in the assumptions used in the analysis which follows, cotton consumption will be down again in 1959. (Cotton is considered consumed when a bale is opened at the mill.)

Figure 1 below gives the monthly record of the actual consumption of cotton for 1957 and 1958 by means of the solid line.

The broken line on Figure 1 is a combination of the seasonal pattern, a 23.75-month cycle, and the underlying trend. This combination (synthesis) is the basis for the statement that cotton consumption will be down again in 1959.

The assumptions upon which this statement rely are that the seasonal pattern will continue, that the 23.75-month cycle will operate, and that the underlying trend we have used is reasonable.

The Seasonal Cycle

The seasonal pattern (12-month cycle) in these figures is the most reliable feature of them. To illustrate, a drawing of the seasonal pattern, showing the actual deviations upon which the ideal pattern is based, together with the ideal pattern,

is given on Figure 2 on page 102. There is very little risk involved in assuming that this pattern will continue.

I should mention that the reported figures of cotton consumed are for four- and five-week months. Because the months that are counted as five-week months vary from year to year, the work on the cycles is based on constant four-week months. After the work is completed the adjustment is made to convert those months which are counted as five-week months to that level. In 1957 and 1958 the month of July was counted as a five-week month, and this raised what would otherwise have been a seasonal low.

The 23.75-Month Cycle

Figure 3 shows both the actual and ideal 23.75-month cycle. Because of centering the actual line looks out of date, but the last plot includes the effect of 11 figures on both sides of it, up to and including January 1959.

Although the 23.75-month cycle has at times been off the track, it currently looks like it is getting back in line. The chances are not quite two out of three that it will operate in 1959.

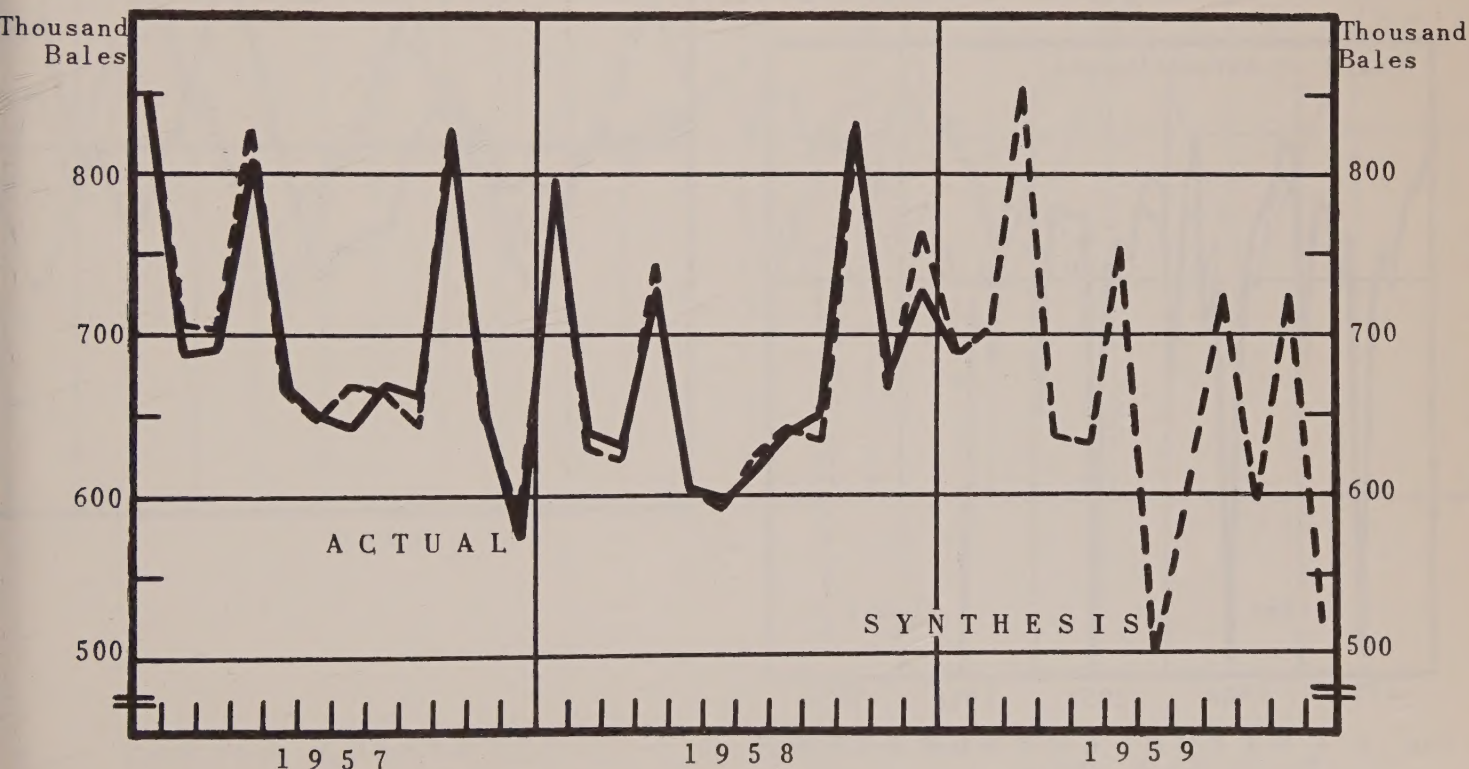


Fig. 1 COTTON CONSUMPTION
Actual Consumption vs the Synthesis (Combination) of the 12-Month
Cycle, the 23.75-Month Cycle, and the Underlying Trend

Although there is more risk with this cycle than with the 12-month cycle, at this point it seems reasonable to include it in the combination

The 23.75-month cycle has a high in February of this year, after which it turns down toward a low due ideally at February, 1960. The strength is 11% above trend at time of crest.

The Underlying Trend

When both the 12-month and the 23.75-month cycles were removed from the data, a smooth line trend was put through the residual. This trend was continued through 1959 in an almost horizontal direction.

This type of underlying trend is of course subject to constant change as the direction of the residual changes.

The Combination

The result of the combination of the three elements we have used is compared to the actual consumption in the following table.

Cotton Consumption (000 bales)

Year	Actual	% Change	Synthesis	% Change
1957	8,358		8,419	
1958	8,126	-2.8	8,132	-3.4
1959	?	?	7,927	-2.5

Further investigation of this series would undoubtedly sharpen the conclusions we have reached, but the main test of what we have done so far will come inevitably with the passage of time.

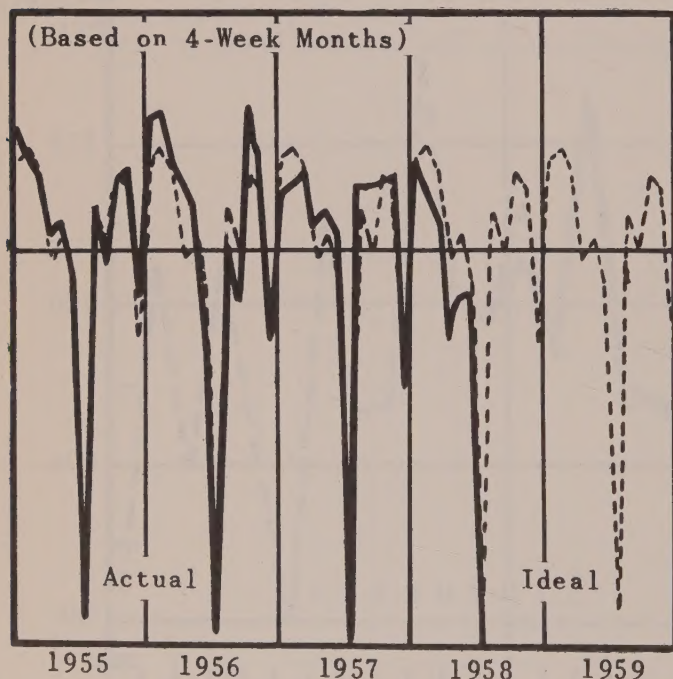
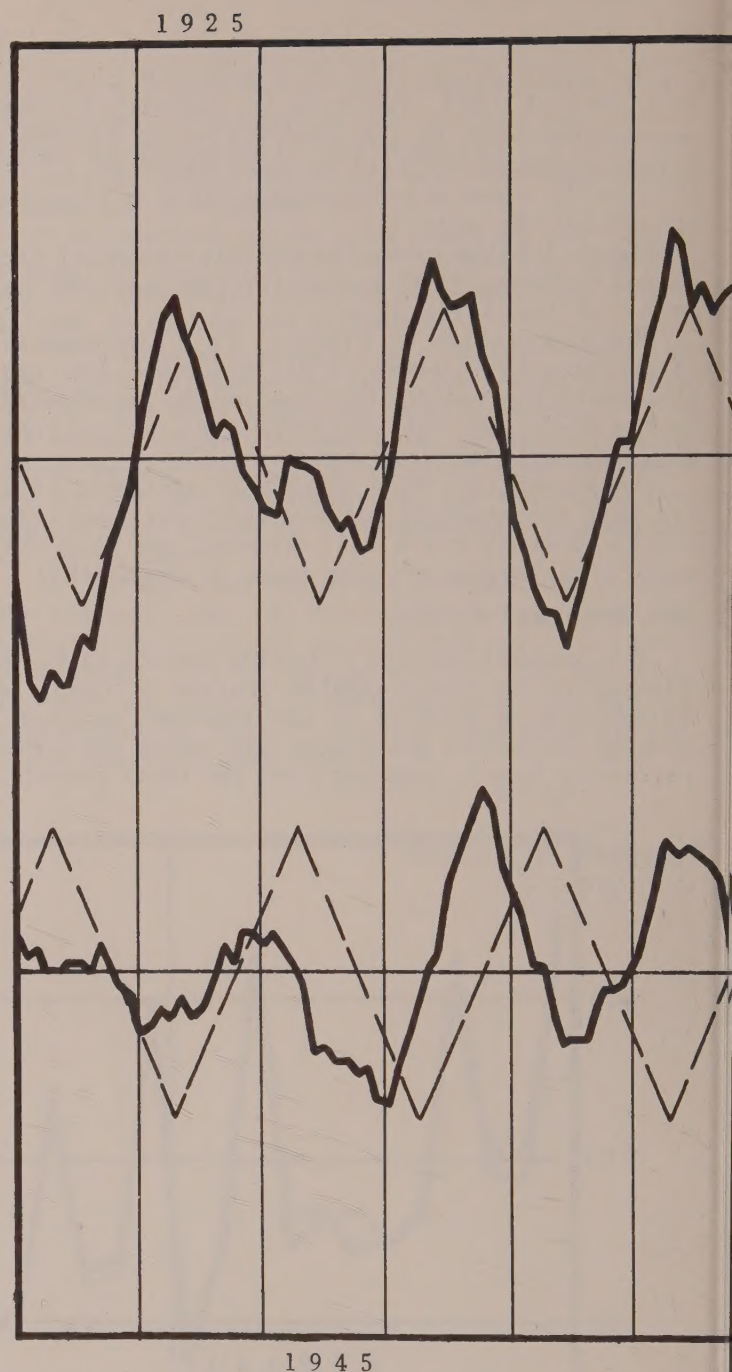


Fig. 2 COTTON CONSUMPTION
The 12-Month Cycle



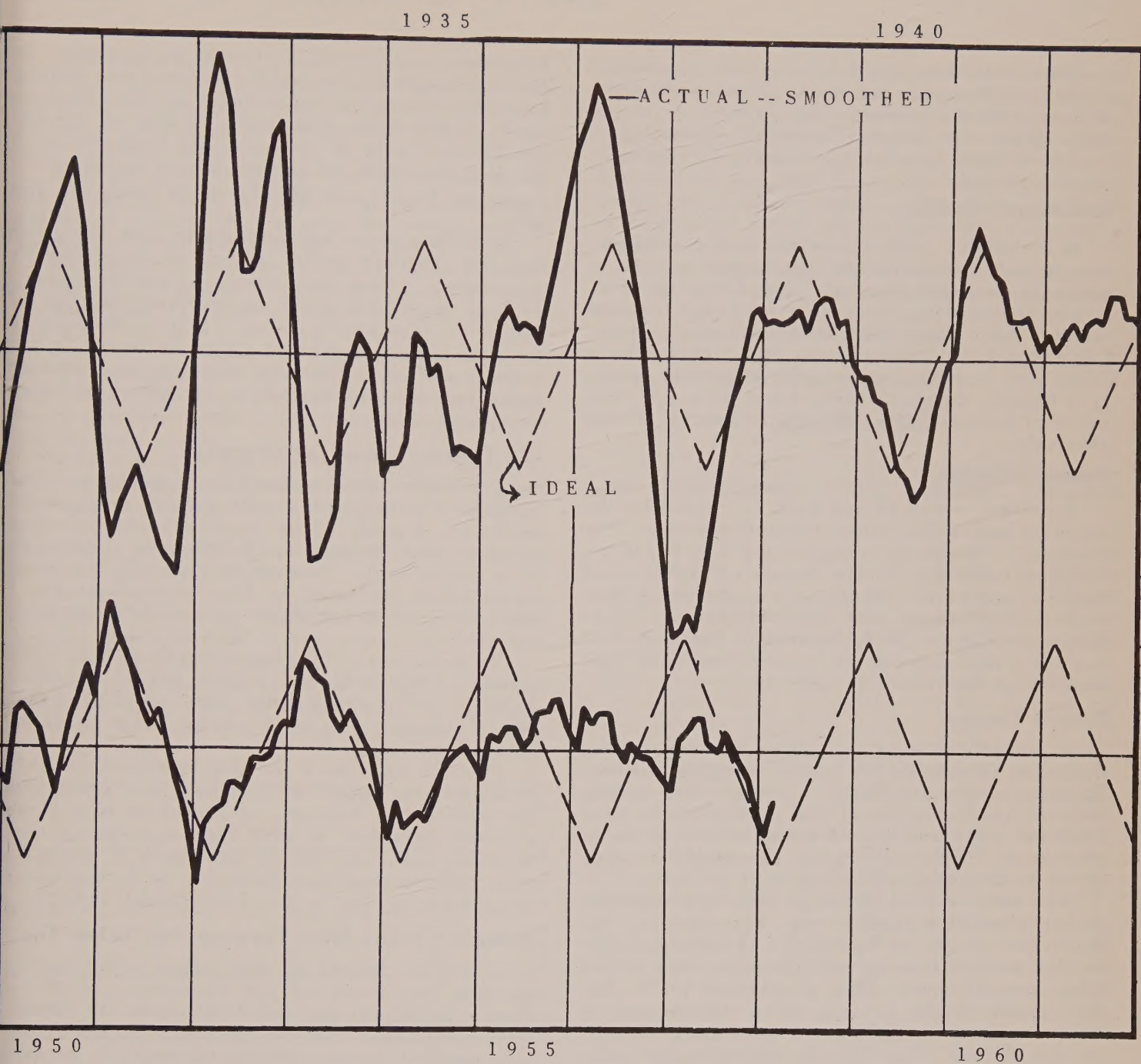


Fig 3 COTTON CONSUMPTION -- The 23.75-Month Cycle

THE THREE KINDS OF CYCLES

BY E. R. DEWEY

There are three kinds of rhythmic cycles. (A rhythmic cycle--cycle for short--is an up and down, or plus or minus, movement that repeats at reasonably regular time intervals; that is, with a beat.) The three kinds are (a) accidental, (b) dynamic, and (c) forced.

Accidental Cycles

An *accidental* cycle is created when the successive up and down movements just happen to come at about the same time interval apart. Let's say that, as you turn up the cards of a well shuffled and honestly dealt pack, every other card, for a while, turns up red. Or let's say that, for a while, every fifth girl you pass as you walk along the street is a blonde. Or that, three times in a row, the price of Kumquat Preferred tops at exactly 57-day intervals.

Dynamic Cycles

A *dynamic* cycle is one that is caused by the interaction of the elements of the system. For example, a pendulum swings back and forth in measured beats due to the forces of gravity and inertia, and to the nature of a pendulum. A baby cries at about three hour intervals because it is hungry--and stops crying because it has been fed. A woman feels amorous at 14-day intervals just because of her internal make up.

Forced Cycles

A *forced* cycle is one where the regulating mechanism is outside the system being considered. For example, you are *forced* to get up every morning because the rotation of the earth on its axis produces night and day. A woman is *forced* to be amorous at 29½-day intervals, presumably by some as-yet-to-be-explained influence of the moon.

Note that the word *forced* is used in a technical rather than in a popular way. For example, you don't *have* to get up because it is daylight; you can lie abed as late as you like or as long as you like--several hours, days, months, or years. But when you *do* resume getting up in the morning it will be at some multiple of 24 hours from the time you did it last. That is, the daily 24-hour cycle has continued as a force whether you respond to it or not, and when you do respond, the timing is set for you by outside forces.

The Problem of Cycle Study

Now the chief problem of cycles is to distinguish between these three kinds of behavior. If the cycle is accidental we know it will not continue, except by accident. For example, having passed three blondes five girls apart, you can't expect to pass another blonde after four more

brunettes, and you won't, except by accident. At the other end of the scale, even if you didn't know the cause, you could count on the 12½-hour cycle of the tides, the 24-hour cycle of the day, the .25-hour cycle of the moon, the 7-day cycle of the week (man made, to be sure, but a forced cycle, none the less), and the 12-month cycle of the year.

In between these two extremes we have the great body of rhythmic cycles anyone of which *may* be accidental, or *may* be dynamic, or *may* be forced. If some particular cycle is accidental it has of course *no* forecasting value. If it is dynamic it has *some* forecasting value. If it is forced it has a *great deal* of forecasting value. It is therefore quite important to know which is which--and often quite impossible.

War Cycle--Forced or Dynamic?

I remember discussing the 22-year cycle of international battles with a high government official. I said, "I've found evidence of this cycle all the way back for 2,500 years. I think it is a forced cycle. However it goes off the track on occasion and until we know more about it, I don't think it is too useful as a guide to national policy."

He answered, "I disagree with you on both counts. I *don't* think it is a forced cycle; I think it is a dynamic cycle. And, again disputing you, I think it is *very* useful as a guide to national policy."

(I still don't know for sure whether this cycle is dynamic or forced but I am much more certain of its usefulness. You see, to depend on this cycle at *that* time--four or five years ago--meant that we could count on five or six years of peace--a very risky dependence. Counting on it *now* means being ready for war at any moment--much safer!)

Dynamic Cycles Have Forecasting Value Too

It is the belief of some starry-eyed cyclo-maniacs that most of the rhythmic cycles we observe in natural and social phenomena are forced. They believe that they are the result of mysterious environmental forces, perhaps terrestrial, perhaps related to the sun, or to the planets, or emanating from outer space, which influence earthly events. In respect to some cycles this may be so. (It is not yet proved.) On the other hand many, many rhythmic cycles are purely accidental; many, many more are undoubtedly merely dynamic.

The point I want to make here, however, is this: Even if the cycle is not forced, if it is dynamic, as against accidental, it can be of very considerable usefulness indeed in throwing light on what is ahead.

Research by Others

CYCLES OF VARIABLE STARS

BY E. R. DEWEY

A variable star is one that becomes brighter from time to time. The radiation of some variable stars increases many times from their faintest period to their brightest period. Others vary only a small amount.

Although several people have theorized about the variation, most credence is given to Shapley's pulsation theory. He compares the motion of the gaseous star to the pulsing of a heart.

According to this theory, as the star expands, it becomes brighter, and thus appears to come closer. When the star contracts, it appears to dim and fade away.

There are several types of variable stars, but we are concerned here with the stars of somewhat regular variability. Many lifetimes have been spent in studying and classifying and cataloging the variable stars.

My catalog of variable stars (published, by the way, in Russian--thank Heaven that *numerals* are the same in Russian as in English!) lists about 11,000 stars that vary in brightness in cycles that range in period (wave length) from a couple of hours to about 80 years.

Most of these variable stars have wave lengths of less than a year. Quite a number have wave lengths from one year to two years. Only 31 have wave lengths longer than two years.

As you can see from the chart printed herewith there are about 300 stars that pulse in a rhythm of about 250 days (8.2 months). If there is any

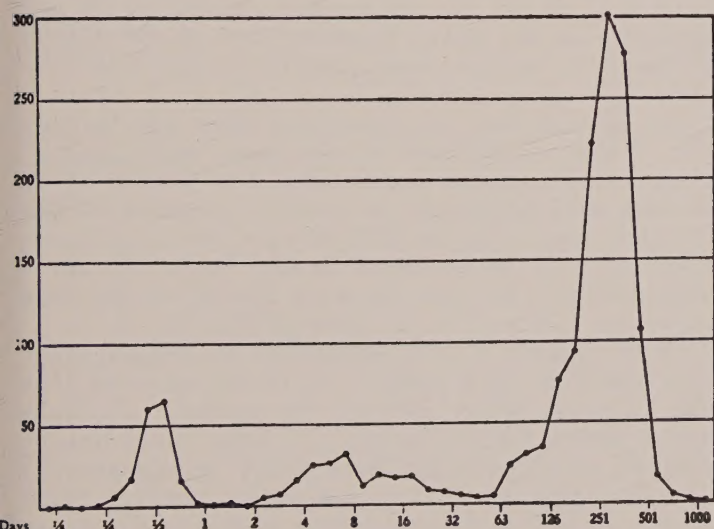
association between pulsating stars and terrestrial cycles the various 8-month cycles would so mix each other up that no one single pulsation could be isolated from the combination. The result would look something like that achieved by Lane* when he filtered sunspot numbers to show any eight month cycles that might be present. There were hundreds of eight-month *waves*, but no consistent eight-month rhythmic cycles.

On the other hand, the 31 cycles over 2 years in length are mostly far enough apart so that, if these lengths were present in terrestrial phenomena, they could be separated.

These 31 lengths, and the stars to which they pertain are given in the table below.

Variable Stars

Rank	Constellation	Star	Period	
			In Days	In Years
1	Corona borealis	T	(29,126)	79.745
2	Scorpius	U	13,400	36.688
3	Auriga		9,883	27.059
4	Cepheus	VV	7,430	20.343
5	Scorpius	V381	6,475	17.728
6	Sagittarius	N5	6,400	17.523
7	Ophiuchus	V532	6,000	16.428
8	Ursa major	SS	5,457	14.941
9	Scorpius	V383	4,900	13.416
10	Auriga	UU	3,400	9.309
11	Orion	a	2,070	5.668
12	Cygnus	RR	2,000	5.476
13	Ursa major	SS	1,909	5.227
14	Andromeda	S	1,885	5.161
15	Scorpius	EM	1,760	4.819
16	Monoceros	BX	1,379	3.776
17	Auriga	TW	1,370	3.751
18	Scorpius	CP	1,155	3.162
19	Serpens	BX	1,150	3.149
20	Cepheus	W	1,100	3.012
21	Ursa major	SW	1,000	2.738
22	Andromeda	TZ	974	2.667
23	Auriga		972.15	2.662
24	Auriga	BO	940	2.574
25	Sagittarius	V777	936.07	2.563
26	Scorpius	V485	845	2.314
27	Gemini	AT	800?	2.190
28	Cygnus	V362	785	2.149
29	Aquila	MV	760?	2.081
30	Pisces	SV	740	2.026
31	Sagittarius	GW	732	2.004



FREQUENCY CURVE OF THE PERIOD OF VARIABLES.
NOTICE THAT THE MOST USUAL PERIODS ARE $\frac{1}{2}$ DAY,
7 DAYS, AND 250 DAYS. (PAUL W. MERRILL, MOUNT
WILSON OBSERVATORY.)

*Lane, G. T., "The 8-Month Cycle in Sunspot Numbers, 1749-1950," *Journal of Cycle Research*, Vol. 1, No. 4, Summer 1952, pp. 101-131.

Technical

ADVENTURES IN FORECASTING

BY H. K. RUTHERFORD

PART V: A PRACTICAL ILLUSTRATION

The present report shows a rather practical application of procedures discussed in earlier articles in *CYCLES* and found useful in forecasting data known to be composites of rhythmic components. While fluctuations in these data, best shown in graphical form, were found not truly rhythmic in timing and especially in level reached, their analyses gave much information regarding the interaction of the component rhythms causing them and made possible predictions for the composite as the rhythms repeated themselves and combined in their various ways.

Here the application is to a long monthly graph of the B.L.S. Wholesale Commodity Price Index, with the purpose of investigating what inflation has in prospect for us as far as this series discloses. In passing, it may be observed that the application here is only to one particular series among the many possible and that it is not to be expected that another would show results exactly the same, since no two are identical. However applicable the general observations of the earlier articles to an almost infinite variety of situations encountered in practice, individual cases differ widely and require separate consideration when forecasting. It may be added that the span of time occupied by one's chart is immaterial, since the procedures appear valid if it be days, months, years or perhaps centuries. Hence, by considering short moves, one may be as speculative as he pleases.

Techniques

Those readers who have reviewed the earlier articles will recognize the techniques employed. Briefly, they include *K points*, each 1/4 the range of the single move being predicted, *K lines* (shown dashed on the graph) from the origin of the move through *K points*, and *intersects* spotted on *K lines* where they reach the level of other *K points*. Intersects are marked by small circles and are timing devices to forecast dates when action in the curve is to be expected and when one may well review indications of strength or weakness in the picture for future guidance. With an occasional exception, an intersect calls for a reversal of the move immediately preceding the date—whether of minor consequence or important—questions to be judged by criteria previously discussed or by awaiting actual developments. When the curve coincides with an intersect, it will probably go through shortly.

In a few cases in the illustration, where complete cycles have become defined, the appropriate techniques as previously discussed are

shown. These are cycle-trends, intersects thereon and parallels thereto (shown in full lines) but the implications of the information so obtained will not be repeated here.

Our interest now is in a forecast and review of past events will be limited to calling attention to the obvious action in the curve at the few intersect dates determined by *K points* spotted above the end of the long move in one direction from '20 to '33. Had one been interested in the detail during this period, he could have applied the same procedures to lesser moves and, of course, to similar moves during the long rise after '33.

1958 Considerations

In making predictions in 1958 a number of indications must be weighed. Obviously, the up-move is slowing down after the typical 2 or 3 steps in the one general direction. Moreover, the 1958 level has made the third contact with the trend line across the 1920 and 1951 tops—such a development having been found in many other series to designate an important long-time objective and limit. In addition, we have a long-time as well as a shorter-term intersect appearing in 1958.

It is concluded that this curve in 1958 has reached an important top and that, while individual commodities in this comprehensive index may fluctuate considerably, the average trend will soon be down, with the usual irregularity along the way. This conclusion is, of course, based on normal expectations and omits consideration of the effect of possible international conflicts upon the picture.

Prediction has two aspects--timing and level--and, since the two have no consistent relationship, they are considered separately. For timing here, we have a *KI-KI* outside intersect, computed at the 1951 top, appearing in 1962--a date when the situation may well be reviewed in the light of action and level at the time. So also for other and more important intersects to appear later.

With respect to the objective of the expected reaction from 1958 levels, it is anticipated that the *KI* level about 99 will be reached, probably after several minor steps. If this level be not reached or if exceeded materially, a reappraisal of the situation will be needed to predict prospects. It may be repeated that one should not expect this level to be reached in 1962 or at any other established intersect date, since the two aspects behave quite differently and comparison of their indications is necessary, with curve action at the objective more important than the timing.

As an example, during the 1921-29 period on the chart, the criterion of failure to recover to the appropriate KI level was clear evidence that the curve had more to do downside.

Deflation Ahead?

The general conclusion on the evidence, therefore, is that, while no precipitate decline in the curve is to be expected at once, the long trend will be irregularly down for some years until another long-term intersect dates its termination at an important objective level. Future objective levels will be disclosed as usual as the picture develops by the use of parallels to cycle-trend lines as already discussed.

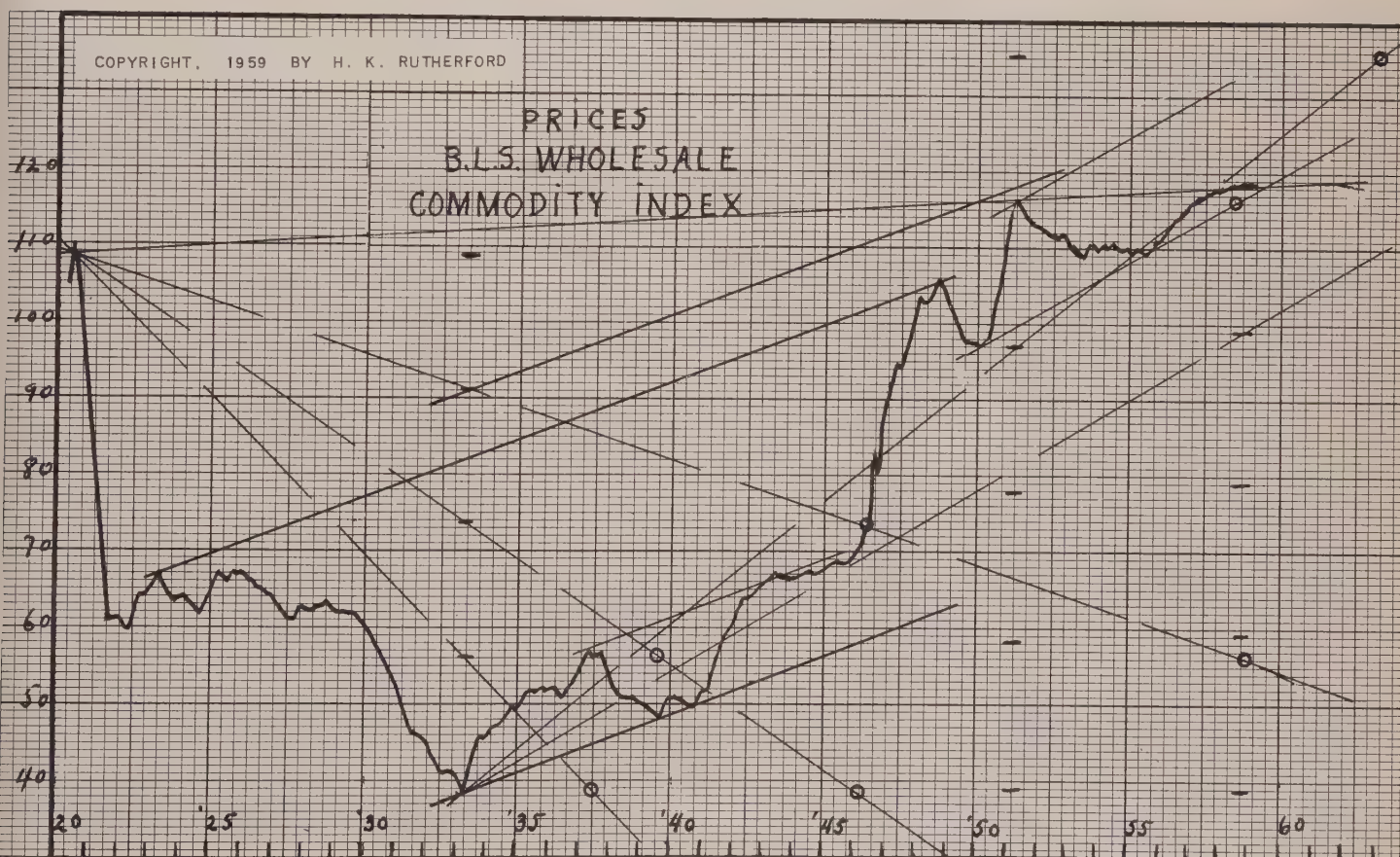
Thus, by way of general summary, when a cycle has been established in the curve and intersects to give timing are being spotted on the cycle-trend at the level of various K points, one may well also draw parallels to the cycle trend through the same K points and others, outside or inside as the direction of the move underway may require, to establish objectives but without expecting any consistent relationship between the two. But, since any reversal level according to the terminology used, is a KO point, earlier turns in the curve are often more convenient for use than computed K points for locating these parallels. When one such

parallel is exceeded, the next in the appropriate direction becomes the current objective and so on until the second has been reached when one may anticipate that the move being predicted is nearing its climax--possibly to be deferred until 2 1/2 or 3 such parallels as the maximum have been attempted.

Successive Objectives

A few such parallel objectives are shown on the chart and require no further comment.

When one is forecasting a single move (one leg of a cycle) instead of the complete cycle referred to in the preceding paragraph, it may be observed that the KI line will always be broken eventually and that the K2 line or the K2 level itself will then be next and the most probable objective limit to the move. Hence, if one concludes that deflation is the long term prospect after 1958, he will be expecting this curve to reach some such objective, determined in 1958, at an appropriate intersect date and will then review the situation to determine prospects thereafter. At this time, consideration of the prospects so many years ahead appears futile and should be deferred until interim developments become available for analysis and prediction.



Letters to the Editor

CYCLE IN SATELLITE SPEED

Maurice A. Man, a member from New York City sent a clipping from the *New York Times* of Sunday, March 1, about the work of two scientists who have been observing the orbits of the satellites.

The two scientists are Dr. Luigi G. Jacchia of the Smithsonian Astrophysical Observatory at Cambridge, Mass., and Dr. D. G. King-Hele of the Royal Aircraft Establishment, Farnborough, England. The British science journal *Nature* published their findings, which include the fact that the air around the earth has a rhythmic pulsation, like that of a jellyfish.

About once a month, they say, the sun hurls out an excessive number of particles which causes an expansion and contraction of the atmosphere.

Variations in the speed of the satellites could not be satisfactorily explained on gravitational grounds, they found. Furthermore, the variations in the speed have a regularity that cannot be connected with lunar tides or other extra-terrestrial pulls.

They concluded, "We are dealing with a global effect--a rhythmic pulsation of the atmosphere as a whole."

They stated that the sun rotates, relative to the earth, once every 27.3 days. The satellites appear to have a fluctuation period of about 28 days.

THE GEISINGER INDICATOR

I have been wondering why you are always so far behind in working up the Geisinger Indicator. For instance, in the February issue, the Indicator is brought up only to August. If this figure is derived from the *Survey of Current Business* published monthly, why could this not be brought up to at least October or November and then tied in with the Federal Reserve Board's Index?

Even though the Geisinger Indicator may give a hint of things to come in eight or nine months, we are already almost eight months away from August before it comes out. If this were kept more up to date, it would mean a lot more to me.

Conshohocken, Pa.

L. B.

Comment: We do use the latest available figures and the work is up to date.

For the February issue of *Cycles* the Geisinger Forecast was written December 24, the day the figures were released by the government.

On a release date, if our copy does not come in the 9 a.m. mail we call Washington to get the information. The computations are made, the re-

sult studied, the forecast written and being processed before the day is over.

The special report on this should be in the mail before the week is out. The magazine goes to press the same week.

In December the latest available Federal Reserve Index was for November. When we have a final Geisinger Indicator (in December the final figure was for August) we advance it eight months (to April in this case) and are actually five months ahead of the production index.

We agree that it would be wonderful to be even farther ahead, but within the framework of the technique it would be a physical impossibility. As it is, the Indicator has worked fine.

WHAT'S AHEAD FOR WAR?

The periodicity of war is something to get a bit "shook up" about. But, so what? Lord Keynes wasn't my ideal as a practicing economist, but he was undeniably correct when he said that in the end we will all be dead, anyway.

Each time I start to worry about mushroom poisoning (nuclear cloud, that is), I decide to concern myself with what the doctor will say on my next visit, or which ape in a 90 mph Buick will get me.

Santa Barbara, Calif.

Elliot Jones

STOCK MARKET CYCLES

Your discussion of double and triple progression in the February issue was very interesting. If you remember, several years ago my work on the stock market suggested this phenomena. More detailed work has tended to confirm it.

Using about twenty years of the Dow Jones 65 stock average. . . the cycles between four weeks and 35 weeks were studied. Periodogram peaks were found at approximately 4.10, 5.87, 8.4125, 11.925, 17.125, 24.361, and 35.00 weeks. This spacing, while not exact, may, within the range of the accuracy of the work, suggest a system as described by you.

Further less detailed excursions into the cycles, shorter and longer in wave lengths, show that these progressions can be extended in both directions ad infinitum, and no waves were uncovered which did not fit in the relationship.

Great difficulty was encountered however in making an accurate projection based on these waves

recurring with a regular wave length which suggested that the wave length of each cycle varies within certain limits and it is possible that they all expand or contract proportionately together. If this latter conclusion should be true then accurate projections should be based on patterns.

In an attempted projection based on a pattern 6, 9, 12, 18, 24, 36, 48, 72, ... 576 the previous decline and current market advance were forecast. Using the longer cycles to guess the future, this year should contain a rather severe reaction from the spring into late fall. The advance which comes out of that bottom should last for about two years, but would be followed by a major depression as the decline indicated is as

bad as the pattern could possibly indicate.

The forecast and the conjecture about patterns is not to be relied on however and should not discredit the original work which does unequivocally indicate two series of waves in the market whose wave lengths are in an approximate double progression and if said phenomena does not arise from a mathematical quirk of the method used should certainly encourage further inquiry into the nature of these waves.

Comments from other enthusiasts would be appreciated.

1502 Bank of the Southwest Bldg.
Houston, Texas

David G. Gray

Chapter Affairs

NEW YORK

The fifteenth regular monthly dinner-meeting was held on March 12. Forty members and guests were present. The speaker was Dr. John J. Grebe, Director, Nuclear and Basic Research, The Dow Chemical Company. His subject was "Cycle Frontiers."

Dr. Grebe will be remembered by *Cycles'* readers as the author of the engrossing and thought-provoking article *Frontiers of Science*, which appeared in the May, 1956, issue of *Cycles*. Of particular note in that article was his spiral chart, which illustrated cycle lengths from the shortest known cycles (10^{30} cycles per second) to

the longest (billions of years).

Dr. Grebe's talk was wholly informal and featured a question and answer period, *preceding* his talk. This unorthodox approach was extremely effective, since it enabled him to judge in advance the interests of his audience and to satisfy them in his presentation.

Jack A. Dorland

WASHINGTON, D. C.

The Washington Chapter of the Foundation held its March meeting on Friday, March 13 in the Community Room of the Washington Post Building.

Mr. Guy Waterman addressed the meeting on

the subject, "The Economic Growth of the United States."

The next meeting is scheduled for the evening of April 10, at 8:15 p.m., at the same place.

LOS ANGELES

Mr. E. R. Dewey is currently touring the country. While on the West Coast he addressed The Los Angeles Chapter.

The meeting was held March 26 at 7:00 p.m. in the New Yorker Room of the Statler Hilton Hotel.

Foundation Affairs

A PROGRAM

The other day one of our members asked me what I would do if I had all the money I wanted. Of course he was speaking in the abstract, but I thought it would be fun to answer his question—just in case!

The Ideal Program

The *ideal* program from the standpoint of cycles would involve the employment of a capable under-study and successor. Such a program would involve the assurance of quite a little money over quite a long period of time. It seems a bit unrealistic to think about.

A More Limited Program

More realistically, let us consider a more limited program; one that would let me devote my full time to fostering, promoting, and conducting cycle research. Such a program would involve (a) my moving from East Brady, Pennsylvania to a place where I could obtain competent assistance, (b) divesting myself of other responsibilities, (c) having a staff of four or five people, (d) having travel and incidental office expense money, and (e) money to publish the results of the research. Such a program would cost about \$25,000 a year plus something for me to live on (because, away from East Brady I could not live for "nothing," as I do here). Such a program should not be undertaken on less than a six or seven year basis:

How would we proceed under such a program?

Publish Research Already Completed

First, we would prepare for publication, in such a way as to interest and stimulate the greatest number of natural and social scientists, the results of research already completed.

Conduct Additional Research

Second, we would conduct—and publish as above—more research in respect to natural and social behavior, in all aspects of natural and social science.

Stimulate Research by Others

Third, we would directly stimulate research by natural and social scientists in their various fields, and relate the work of each to the work of others in such a way that a unified body of knowledge in respect to cycles would emerge.

What are some of the specific things that might be investigated?

As an example, let us take just *one* cycle—let us say the well established one 17 3/4-years long.

An Example

We would see, the world over, in what different phenomena this 17 3/4-year cycle has been found.

For each, we would record and, if necessary re-determine, its exact length, strength, and timing.

Does it have a uniform or a varying wave length? If the length varies, does it vary by 1% over a 1680- or 1700-year cycle, as sunspots do, or in some other way?

Has this cycle persisted for 2,000, 3,000, or 4,000 years as we go back into history, or does it fade out after one or two thousand years? If it fades out, does it reappear as we go farther backward in time?

Does this cycle evidence latitudinal passage, as so many cycles do? That is, does it crest later and later as it is found nearer and nearer to the equator?

For any given latitude do the crests come at the same time? If not, which phenomena crest earlier?

If this cycle is present on the sun, does it come at the same time as it comes at comparable latitudes here on earth? If not, does it come earlier? Later?

The Next Step

Having discovered these things about the 17 3/4-year cycle we would go on to make similar investigations of one of the cycles of related length, such as 1/2, or 1/3 of 17 3/4 years. Then another cycle, and another, indefinitely.

In addition, we would attempt to discover if the seeming relationship of these various wave lengths was a real one. That is, are these other cycles *really* 1/2 or 1/3, of the length of the 17 3/4-year cycle, or are they *nearly* these lengths? If the latter, there is, of course, no relationship at all.

Collateral research would concern itself with techniques. For example, are present tests for determining the significance of a cycle adequate? If not, can better tests be devised?

Result

The result of these various investigations would create a body of fact upon which it should be possible to build a real science of cycles. Such a science would open up vast new areas of knowledge and would give man a greatly increased mastery over his environment. In those instances where he could not control the forces that influence him, he could at least adapt himself to them.

E. R. D.

The Cycle Round-up

MAY 1959

Over the years we have covered hundreds of subjects in our monthly magazine.

THE PURPOSE

The purpose of the Cycle Round-Up is to follow "how it came out" for any and all of the series we have analysed and reported on in *Cycles*.

If we have worked with a series of figures which can be brought up to date only once a year the item can be carried in this section only once a year.

This does not create any problem.

However, there are monthly figures available for many of the series we work with.

This is true even of series on which the work was done with annual figures.

The work on corn prices, bond yields, wheat prices, and stock prices, for instance, was all done with annual averages. The cycles involved are long cycles, and it was not necessary to use monthly data.

But we follow the performance of the data with respect to the current phase of a given cycle (of combination of cycles) with monthly figures.

Following annual cycles with monthly figures does create the problem of maintaining perspective.

A 5-year cycle has a down-leg of 2 1/2 years and an up-leg of 2 1/2 years. If you plot monthly figures against a 2 1/2-year sweep of the cycle, obviously the figures are going to bounce around. It may be difficult at times to decide if the cycle is continuing to work.

It is necessary to view any current monthly figure as part of an annual average moving slowly up or down or sideways.

THE DATA

We should point out that the figures we use are always the latest available. Some series may be as much as two months

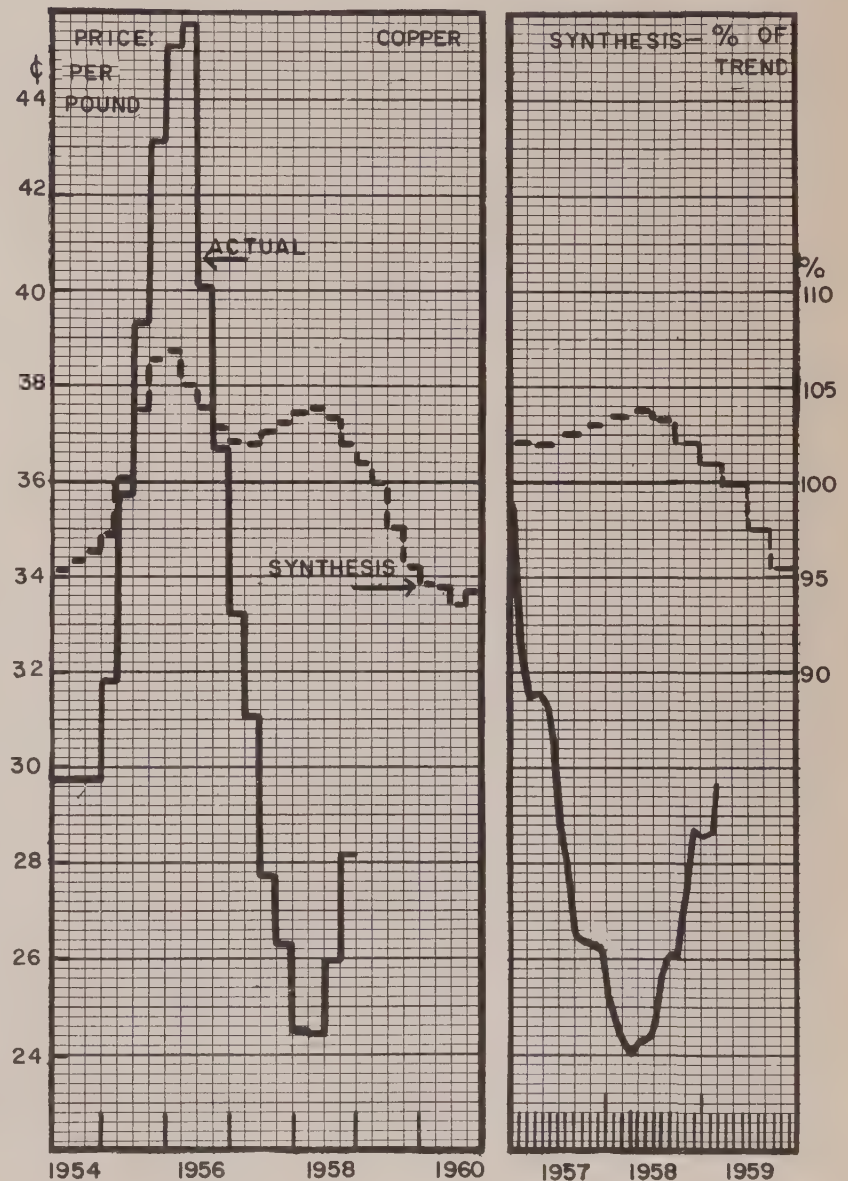
behind the calendar time, but the difference occurs because of the time involved in collecting and tabulating the information.

Most of the data we use are reported monthly in the *Survey of Current Business* which is published by the Department of

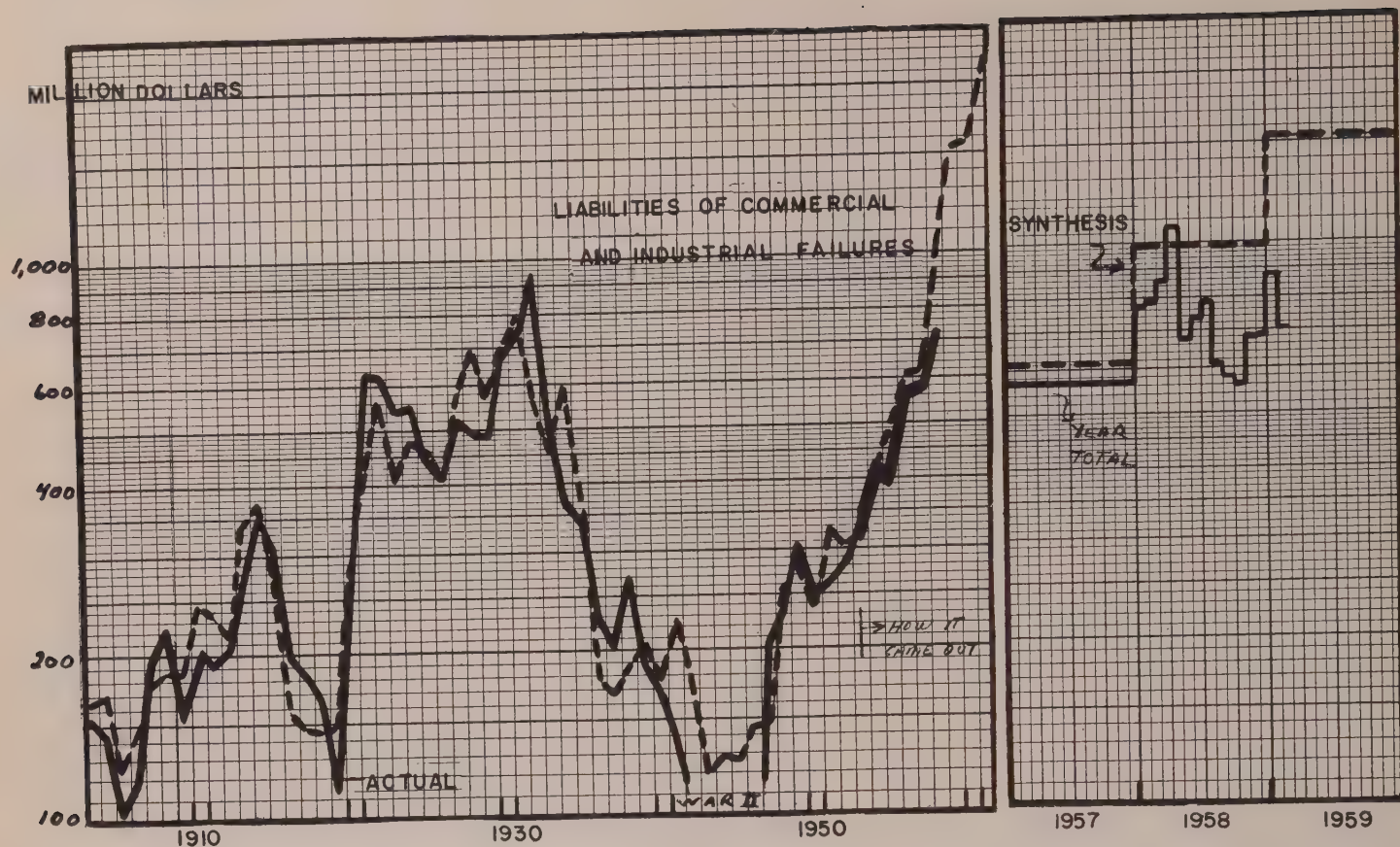
Commerce. Many of the figures reported in the *Survey* are prepared by private organizations and this additional step in the process introduces more delay.

We are as current as is possible and always use the latest available figures.

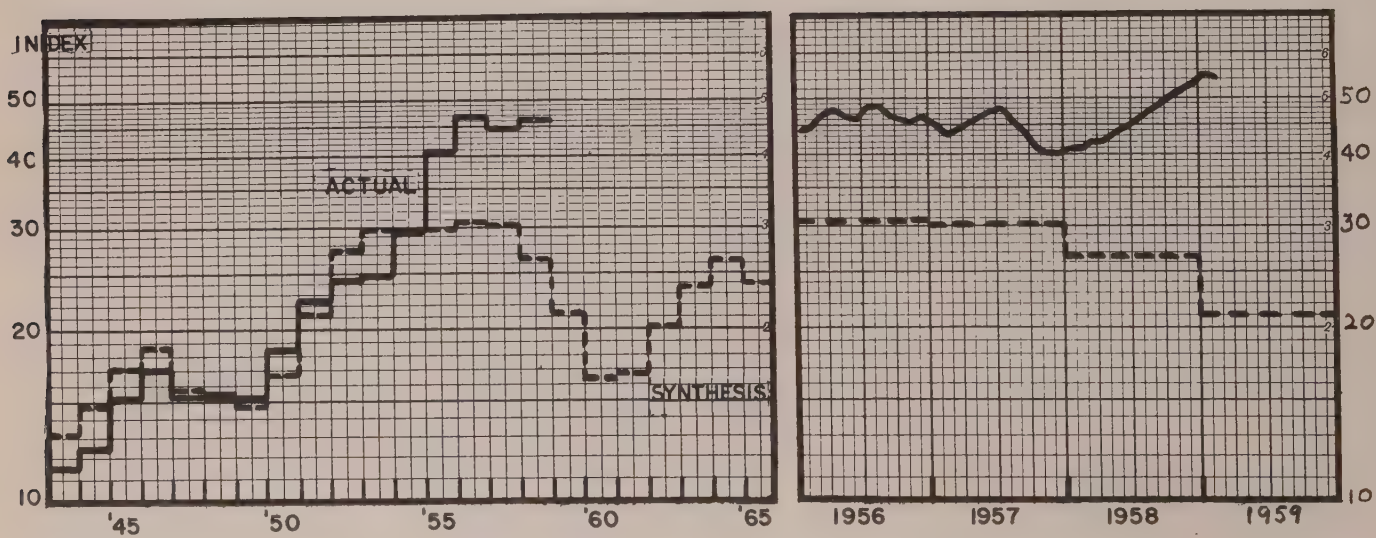
COPPER PRICES



FAILURES



STOCK PRICES



SUNSPOTS

The chart reproduced here is the long yearly record of sunspot numbers. The dominant cycle in these figures is slightly

over 11 years long and is clearly evident by inspection.

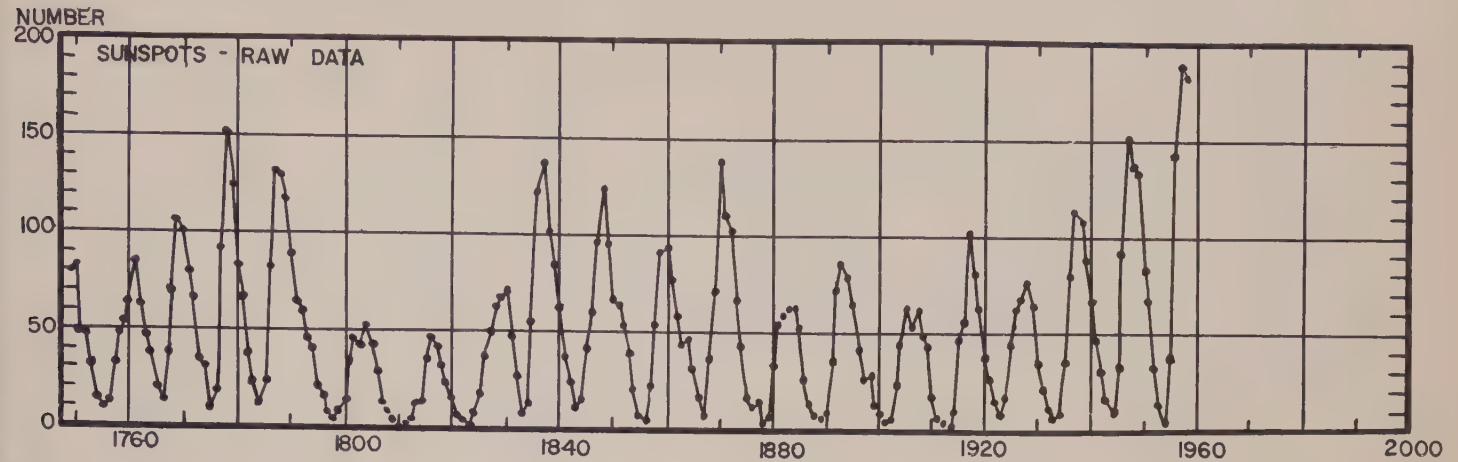
The year 1957 was an all time high at 189.7. The average for

the year 1958 was 182.1.

Recent monthly figures are:

1959 - Jan 210

Feb 140



EGG PRICES

The synthesis of egg prices includes the seasonal cycle, a 26.5-month cycle, and a smoothly rolling trend line. Both the seasonal and the 26.5-month cycle are currently going down.

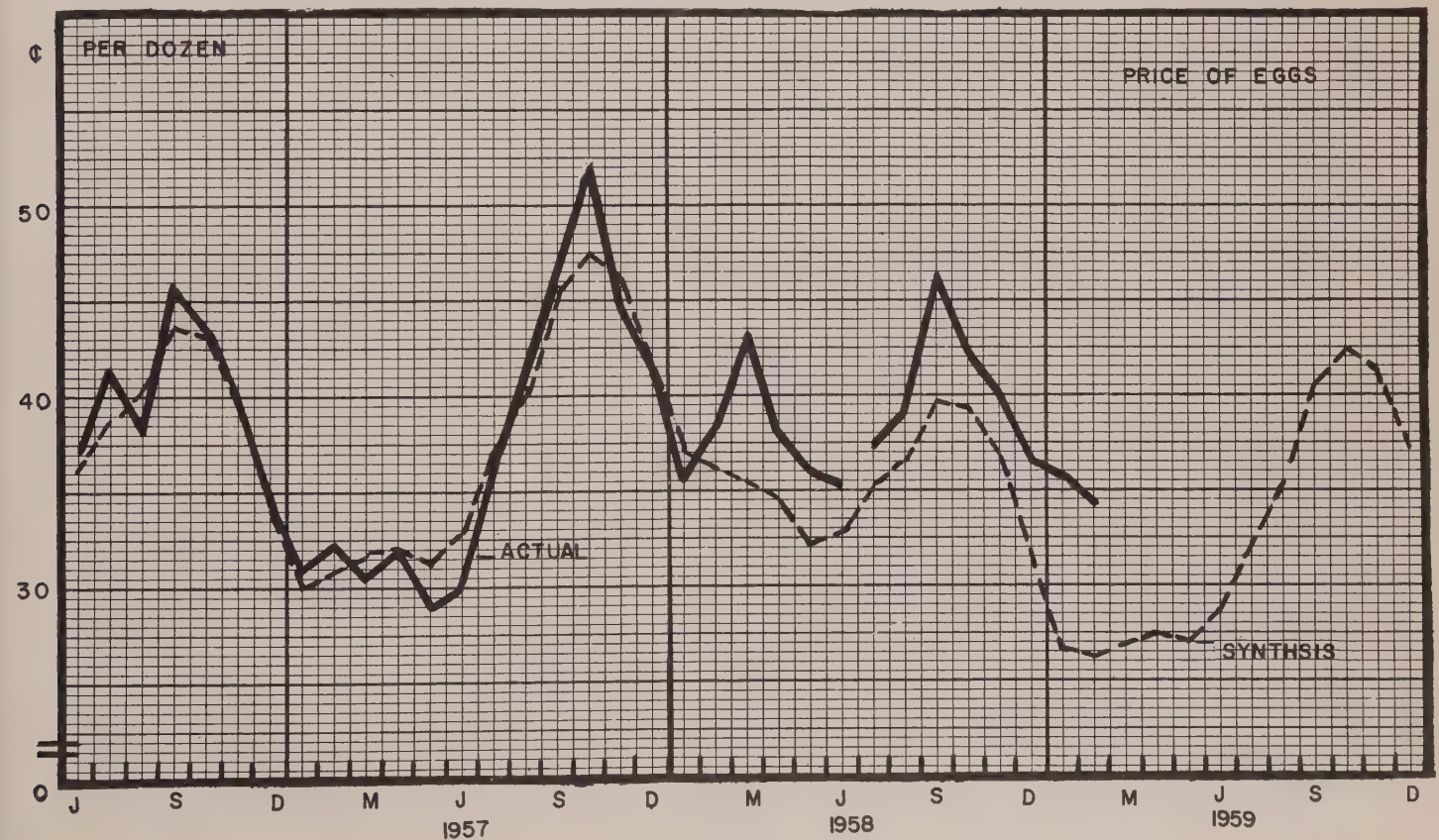
Our analysis of egg prices was based on the f.o.b. price at

Chicago. Beginning with July, the prices reported monthly have been the delivered prices.

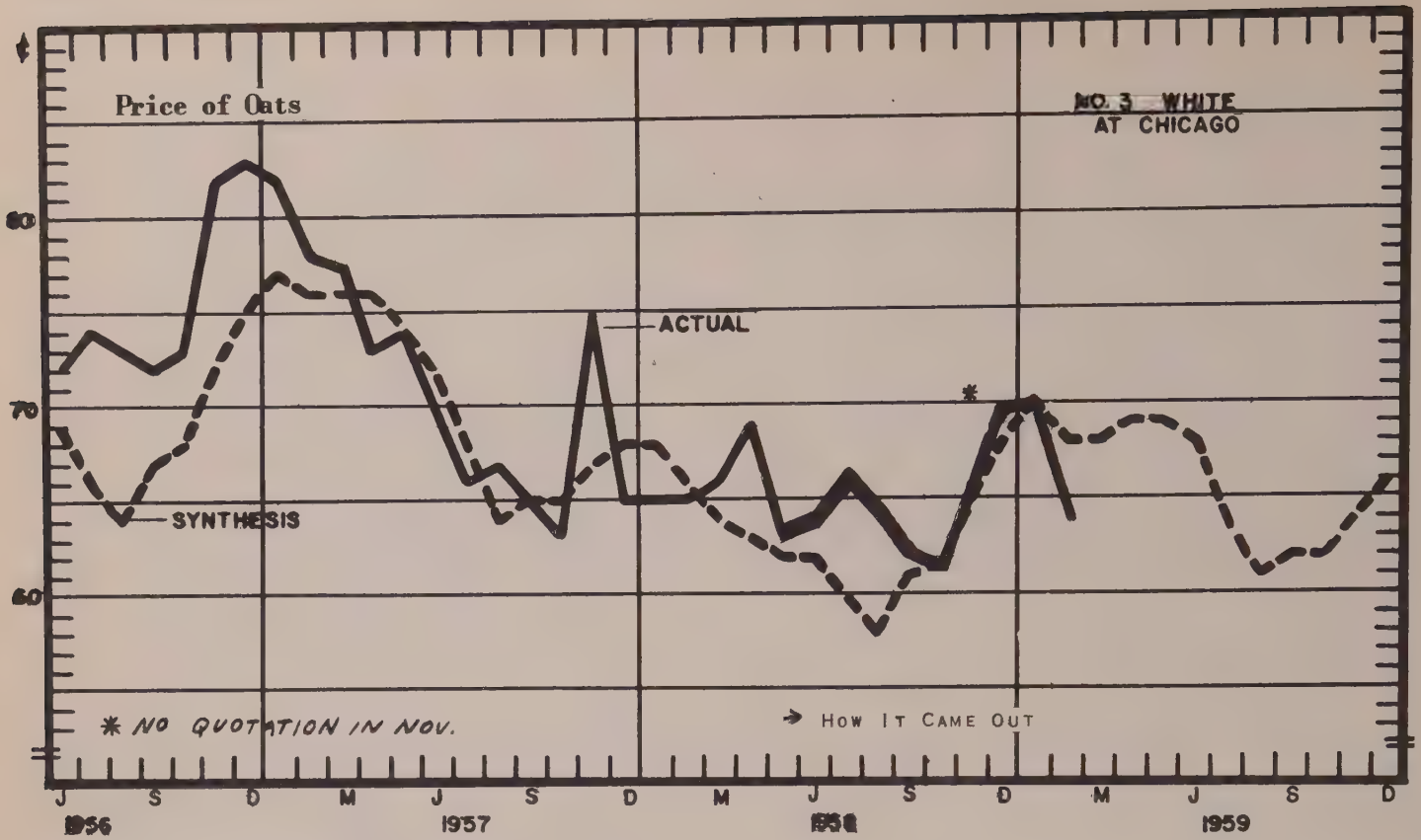
The contour of the lines of both f.o.b. and delivered prices should be the same, but the delivered price line will run a little higher. (It is not pos-

sible at present to tie the two series together.)

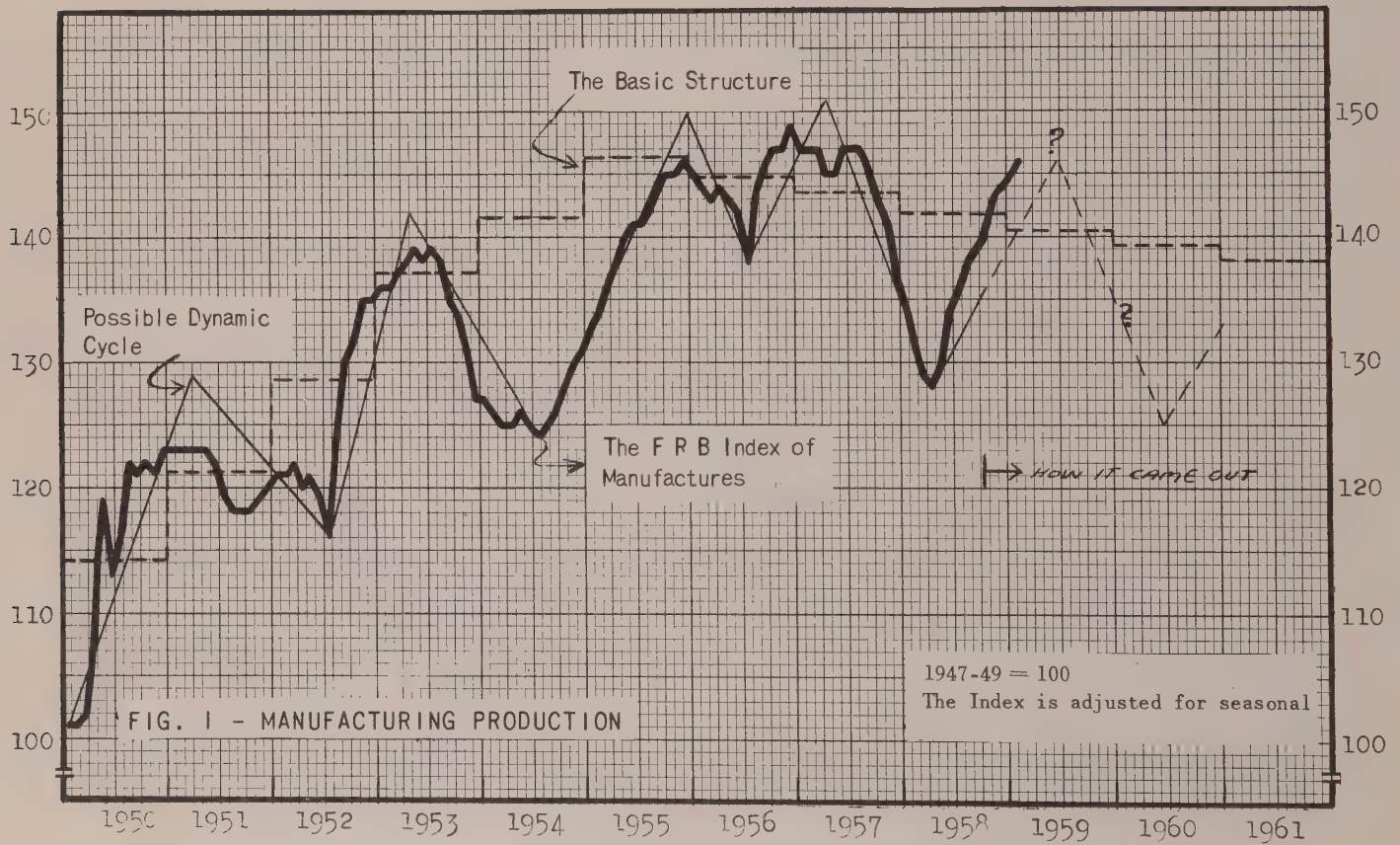
Nevertheless, it is possible to evaluate the synthesis line by keeping in mind that the actual line is running at a higher level than it should because of the delivery cost.



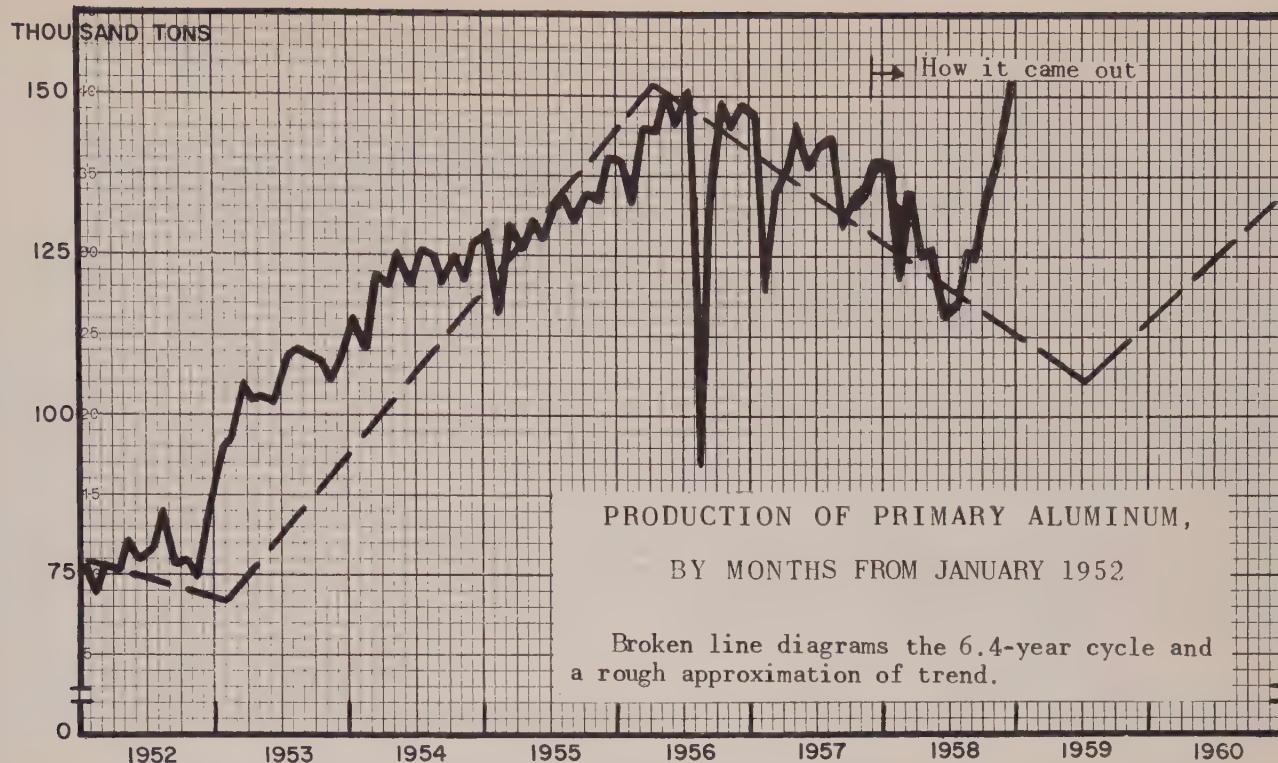
OATS PRICES



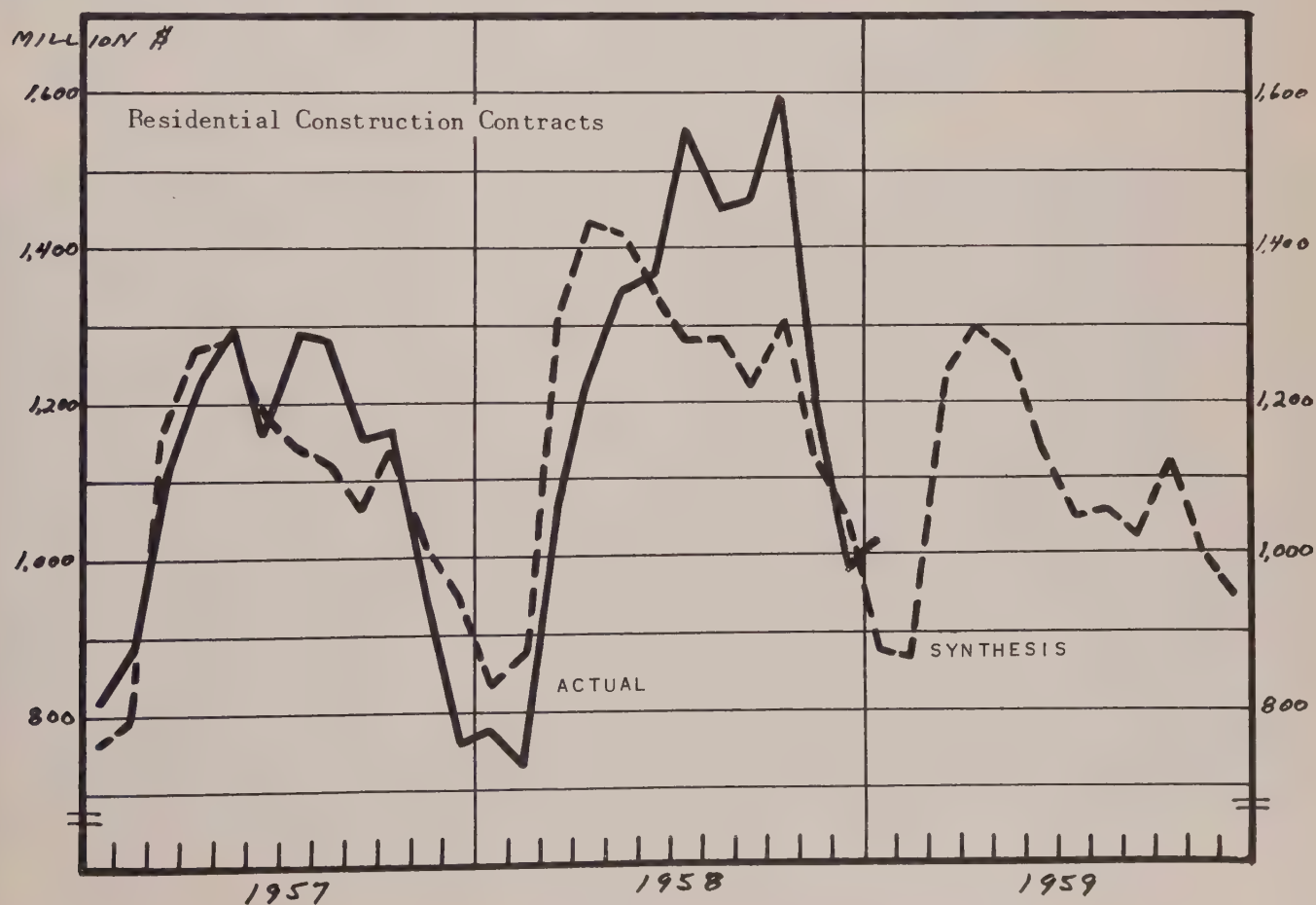
MANUFACTURING PRODUCTION



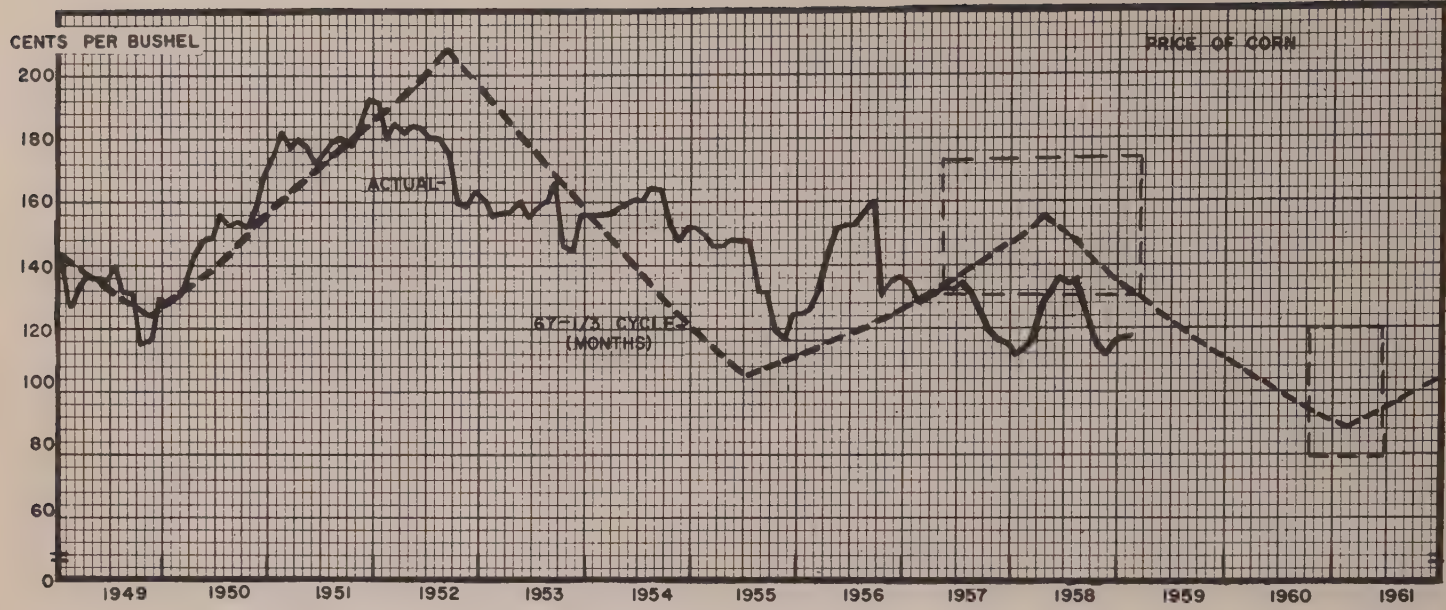
ALUMINUM PRODUCTION



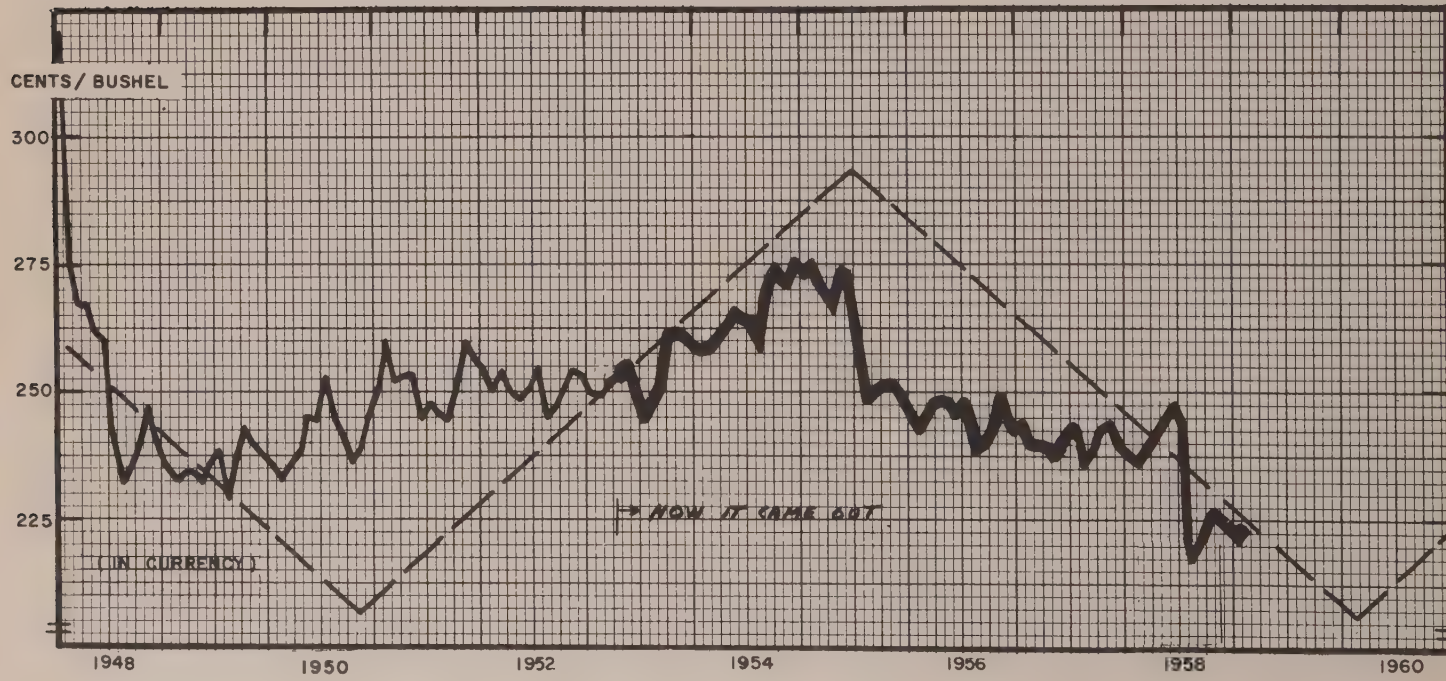
RESIDENTIAL BUILDING



CORN PRICES



WHEAT PRICES



For the benefit of our new members we are reprinting the summary chart from the article "What's Ahead for War?" which appeared in the February, 1958 issue of *Cycles*.

The International Battle Index - the Index of War - is going up. This is illustrated on the chart below where the broken line diagrams the ebb and flow of the combination of four cycles which have been isolated in the War Index.

The solid line is the record of actual international conflict.

The correspondence between the two lines is the basis for our conclusion that the basic problem with which we have to cope over the next decade is war.

This conclusion is qualified by one if - if the cycles in the index continue to operate as they have for so many years in the past: for 2,556 years, to be exact.

The data we used in this work was developed and extended over this long period of time by Professor Raymond K. Wheeler of the University of Kansas. He and a staff of workers searched all available historical records. To every mild battle he gave a

value of one; to every average battle he gave a value of two; to every especially heavy battle he gave a value of three. The index value for any given year is the sum of these values for that year.

The Index of International Battles goes back year-by-year to 599 B.C. The cycles which we isolated in the series are summarized in the following table which gives the length, strength, and timing:

Length: in Years	Strength: Per Cent Above Trend	Timing: Date of High
11 1/5	52	1960
22 1/7*	157	1963
57	151	1975
142	78	1950

The 11-year cycle has been traced back to A.D. 1750. The 22-year cycle is present on the average in each part of the data all the way back. There is no question in regard to the significance of these two cycles in

*OVER THE ENTIRE PERIOD, 599 B.C. TO DATE, THE LENGTH IS 21.95 YEARS.

these figures. Cycles of 57 and 142 years in length have also been found, but of course there are not as many repetitions of these.

The four cycles are combined to make one line, the synthesis line on the chart.

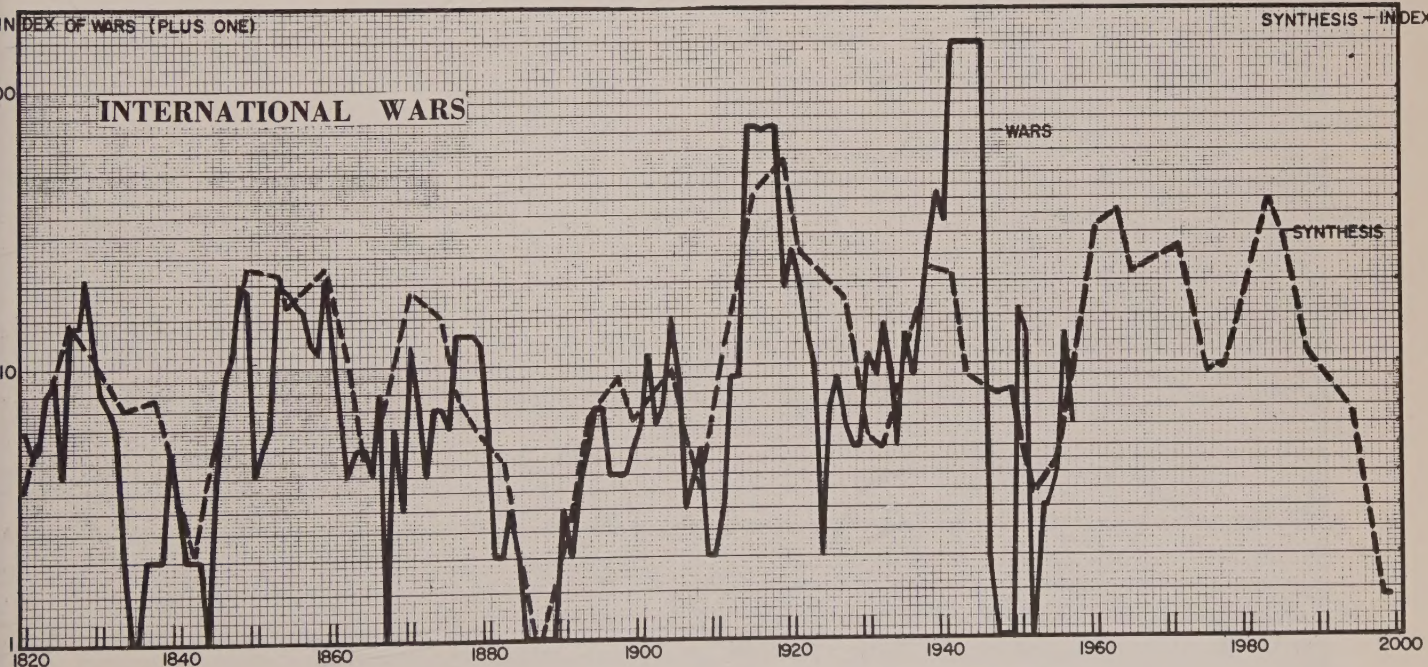
As you can see, the curve showing the combination of cycles rises rapidly to a plateau of high intensity during the early 1960's. Very dangerous times lie immediately ahead.

The Index values as prepared by Professor Wheeler for recent years are:

Year	Index	Year	Index
1944	150	1951	12
1945	150	1952	0
1946	1	1953	2
1947	0	1954	2
1948	0	1955	3
1949	0	1956	12
1950	15	1957	5

For the complete article giving the details of the analysis of the Index of International Battles see the February 1958 issue of *Cycles*.

E. R. D.



The Geisinger Indicator

FORECAST

The Federal Reserve Board's Index of Industrial Production (seasonally adjusted) increased again in February, when it reached 144.

The Geisinger Indicator turned up a little in November (July 1959 when advanced) to 3.2. This latest month makes what at first appeared to be a sharp downturn look like a minor dip.

The rate of increase in the Production Index went down slightly in January. This rate is measured by the First Difference Indicator which had a value of 1.33.

The Modified Geisinger Indicator, which is the sum of the Geisinger Indicator and the First Difference Indicator, went up slightly in November (July 1959 when advanced) to 4.86. However,

this increase is so small that it amounts to a sideways move.

Thus we have a neutral situation--one Indicator being up and the other down, while the sum of the two is moving almost horizontally.

The note of caution introduced by the turn in the Indicators three months ago remains. The current hesitation might be just a pause on the way down.

However, the literal interpretation is that, in the immediate future, the Index of Production will continue high. There is no real threat until the Geisinger Indicator cuts -2.0 going down.

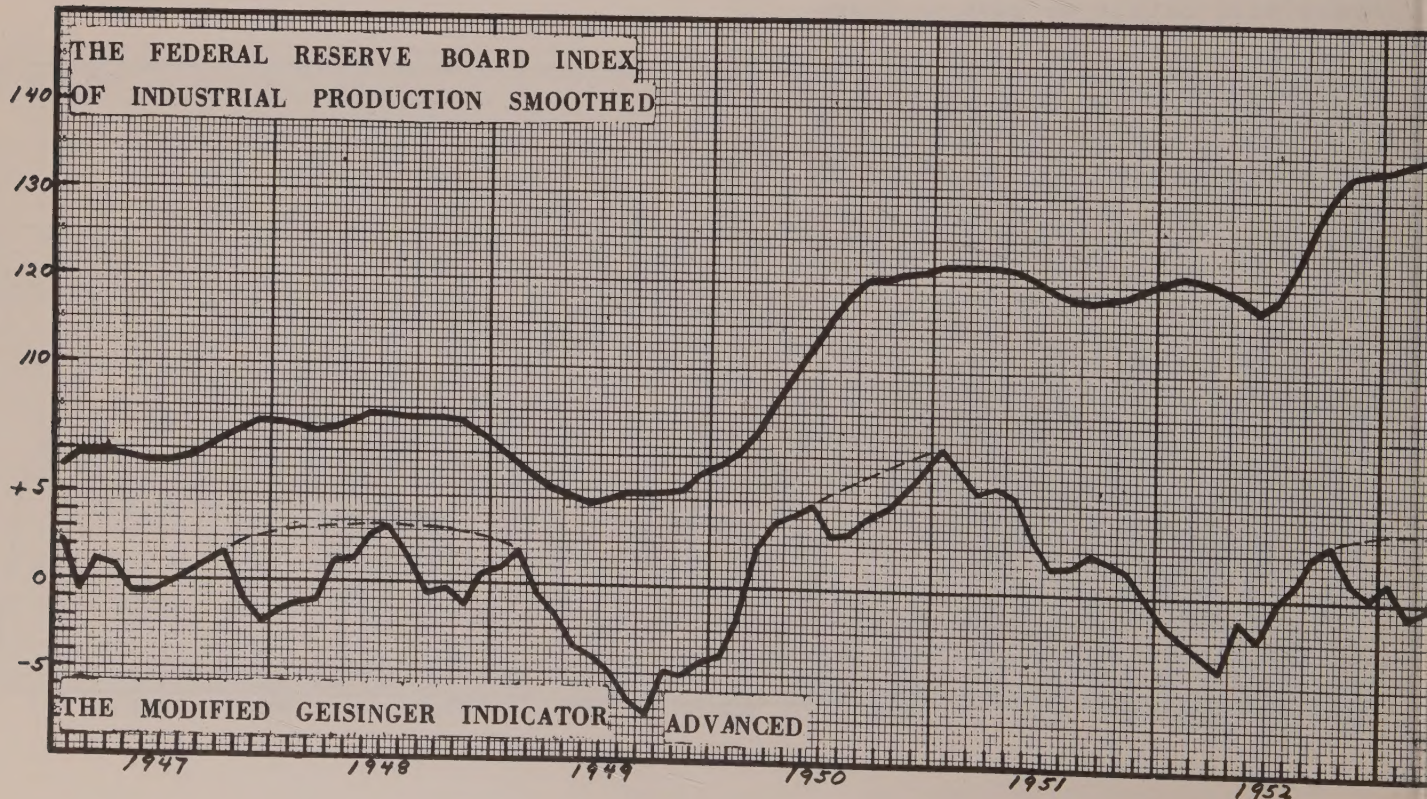
March 25, 1959

E. R. Dewey

<u>Month</u>	<u>F.R.B. Index</u>	<u>Geisinger Indicator</u>	<u>First Difference Indicator</u>	<u>Modified Geisinger Indicator</u>	<u>Timing Advanced 8 Months</u>
Aug-1958	136	5.2	2.17	7.37	1959-Apr
Sep	137	3.0	1.50	4.50	May
Oct	138	2.8	1.50	4.30	Jun
Nov	141	3.2	1.66	4.86	Jul
Dec	142	*	1.67	*	Aug
Jan-1959	143	*	1.33	*	Sep
Feb	144p	*	*	*	Oct

p - preliminary

* - not yet available



BACKGROUND

Explanation

The **Modified Geisinger Indicator** is a series of numbers which, in the past, have usually gone up and down ahead of corresponding movements of the Federal Reserve Board Index of Industrial Production. The Modified Geisinger Indicator thus throws some light on the probabilities of the future.

The Modified Geisinger Indicator is the sum of two Indicators, the Geisinger Indicator and The First Difference Indicator.

The **Geisinger Indicator** was invented by Robert Geisinger. It is derived from figures which are published each month in the *Survey of Current Business*. (See Col. 2 of the table.)

The **First Difference Indicator**, is merely the amount by which the smoothed F. R. B. Index is above or below the value for the preceding month. It registers the *rate* of advance or decline. It has some forecasting value, too. (See Col. 3 of the table.)

The sum of these two Indicators makes the **Modified Geisinger Indicator**. See Col. 4 of the Table. It is advanced by eight months and plotted as the bottom line of the chart.

The **F. R. B. Index of Industrial Production** measures physical production in the U. S. A. It is a weighted average of tons, yards, gallons, and numbers of things produced each month. See (Col. 1 of the Table.)

The smoothed values of the F. R. B. Index of Industrial Production are plotted below as the top

line on the chart. The smoothing is effected by means of a centered 3-month moving average posted to the second position. The latest actual monthly Index of Production is recorded by a dot.

Industrial Production has *nothing* to do with stocks.

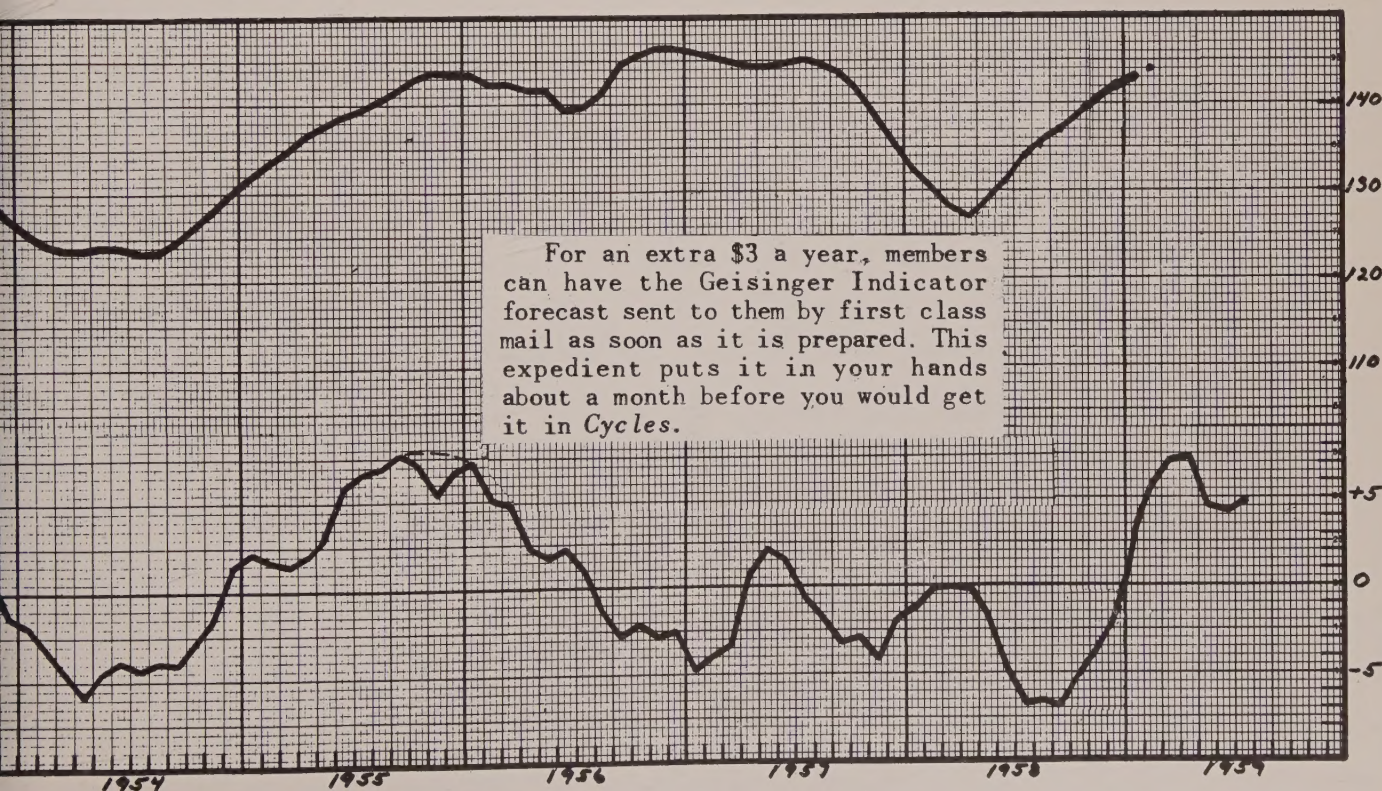
Interpretation

In the past, when the *Geisinger Indicator* (Col. 2), going up, has cut +2, good business has followed; when, going down, it has cut -2, bad business has followed.

The important *turns* of the *Geisinger Indicator* (Col. 2) and the *Modified Geisinger Indicator* (Col. 4) often come about 8 or 9 months before the corresponding turns of the Index of Industrial Production. This fact gives some idea of what is around the corner. To help you to grope your way into tomorrow the Modified Geisinger Indicator is advanced 8 months. Where it is now, Industrial Production may soon be.

The degree to which the two curves (Industrial Production and the Modified Geisinger Indicator advanced by 8 months) correspond can be seen by inspection of the chart.

The correspondence between the two lines on the chart is general rather than specific. It is not to be expected that every little wiggle in the Modified Geisinger Indicator is significant. It is rather the broad sweep of the line which is to be watched. The dashed lines which are added show the manner in which the eye should follow the Indicator.



H A MUSHAM
741 N RUSH ST
CHICAGO, ILL

DIRECTOR'S LETTER -- CONTINUED

Dear Member:

You will find that many of the old issues of CYCLES are as good or better than the ones you are receiving currently.

Many of the old issues are becoming collector's items.

In fact we have only two complete sets of Volume I (1950, 5 issues), and Volume 3 (1952, 10 issues). They are priced at \$15 a set (bound, \$4 extra).

We have several complete sets of all the other years. They sell for \$5.50 per set (bound, \$9.50).

If you will accept substitutions for the one or two issues of each year that are scarce, you may have the back reports for 1951 through 1958 at \$3.50 per set of 10 (or 11 or 12 for the later years). How is that for a bargain?

Send your order and check to the Foundation for the Study of Cycles, 680 West End Avenue, New York 25, New York.

Very cordially yours,

Edward R. Dewey

Director